C-A OPERATIONS PROCEDURES MANUAL

4.94.1   V Primary Access Security Gate Subsystem Check

Text Pages 1 through 6

Hand Processed Changes

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Revision 01

Approved by: _____ _____
                AGS Department Chairman   Date

A. McGeary

4.94.1   V PRIMARY ACCESS SECURITY GATE SUBSYSTEM CHECK

1.   Purpose and Scope

        This procedure provides directions for the test and validation of the hardware portion of
        the V Primary gate subsystem of the RHIC Particle Accelerator Safety System (PASS).

2.   Responsibilities

        2.1   The RHIC or AGS Safety Systems Group Leader shall ensure that this procedure is
                executed, at no greater than six month intervals, or at such times as required by the
                Radiation Safety Committee (RSC).

        2.2   The RHIC or AGS Safety Systems Group Leader shall review and initial the completed
                procedure checklist.

        2.3   The RSC Chairman (or his designee) shall review the test results and determine when
                retesting is required after changes in hardware or software have been implemented.

        2.4   Members of the RHIC or AGS Safety System Group shall, as designated, conduct and
                document this procedure.

        2.5   The software engineers shall ensure the configuration control of the software tested.

3.   Prerequisites

        3.1   This procedure may only be executed by members of the AGS or RHIC Safety System
                Group.

        3.2   This procedure requires two individuals trained in this procedure for proper execution.

        3.3   A Restricted Access zero key, Controlled Access #5 key and sweep/reset #4 key.

        3.4   Standard electrical toolbag.

        3.5   Proper setup and calibration of the current source boards should have been done
                before executing this procedure.

        3.6   Programs loaded Division A & B for Peer 25 and recorded in PASS Engineering
                Change Log Book.

        3.7   Peer 25 enclosure RSC is RS LOTO by AGS Safety Systems Group Leader Engineers.
                Peer 25 (Tag #)_____
                Peer 25 (Tag #) _____
                RS LOTO Development System Access Connector (Tag #) _____

3.8   Prior to the execution of this procedure, the beam line shall be placed in a safe off condition by performing RS LOTO. RS LOTO of Booster F6 and BTA DH2&3 or equivalent approval by chair RSC prior to execution of this procedure.
RS LOTO applied _____

3.9   Notify the Operations Coordinator (OC) or the Main Control Room (MCR) supervisor that the VP line gate system is being tested.

3.10   Post Notices in the MCR and at the VPGE1 gate that the gate system is being tested.

4.   <u>Precautions</u>

None

5.   <u>Procedure</u>

This test will verify the following for both A and B divisions:

Door switch and crash glass switch
Strike solenoid and latch switch
Gate reset funtion and local indication
Sweep check station function and indication
Other indicator lamps at gate
MCR interface - AB Panelview 1400

5.1   From PASS Engineering Change Log Book, record software installed Peer 25, both Divisions A & B.

Division A Compiler version _____

Division B Compiler version _____

Peer 25 Div. A Program version _____
               Save date _____
Peer 25 Div. B Program version _____
               Save date _____

5.2   VPGE1 Gate Door switch, Crash Glass and Latch Switch (C1028013).

5.2.1   Perform a physical inspection of the gate to confirm its proper mechanical operation, that the position sensing limit switches are properly aligned and the integrity of the wiring. Check for simple exit through the gate by means of the inside doorknob.
Switch alignment OK _____
Wiring OK _____
Exit by doorknob OK _____
Door locked preventing entry from outside _____

5.2.2 MCR Panelview 1400 should display door open/not reset status.
Panelview display OK _____

5.2.3 Panelview should indicate OPEN for crash glass switch or latch switch or door switch open. Check A division hardware first, then B division. Note that B division has no latch switch.
Any A division switch open indicates OPEN on Panelview _____
All A division switches closed indicates NOT RESET on Panelview_____
Any B division switch open indicates OPEN on Panelview _____
All B division switches closed indicates NOT RESET on Panelview_____

5.3 VPGE1 Electric Strike and Status Lamps (C1028013)

5.3.1 Use Panelview to select Peer25 SAFE STATE.
Check that CONTROLLED ENTRY lamp is lit _____
Check that #5 key with simultaneous release (S/R) will release electric strike but key or S/R alone will not _____
Simultaneous release should be audible at gate _____

5.3.2 Use Panelview to select Peer25 R/A.
Check that RESTRICTED ACCESS lamp is lit _____
Check that #5 key is inoperative with or without S/R _____
Check that zero key will release electric strike _____

5.3.3 Use Panelview to select Peer25 C/A.
Check that CONTROLLED ENTRY lamp is lit _____
Check that #5 key with simultaneous release will release electric strike but key or S/R alone will not_____
Simultaneous release should be audible at gate _____

5.4 VPGE1 Gate Reset Function (C1028013)

5.4.1 There is no local gate reset function for this remote access gate.

5.4.2 With all but two #4 keys captive, attempt to resetVPGE1 Gate using Panelview button and #4 momentary keyswitch.
Panelview does not indicate VPGE1 GATE RESET _____

5.4.3 With all but last #4 key returned and captive, reset VPGE1 using Panelview button for VPGE1 and #4 momentary keyswitch in the U Down key panel and observe that Panelview indicates gate reset.
Panelview indicates VPGE1 GATE RESET _____

5.4.4 Check that Panelview indicates VPGE1 not reset when door is opened. Check indication for both divisions.
Panelview indicates gate not reset in A division for door open_____
Panelview indicates gate not reset in B division for door open_____

5.5 Sweep Check Station Function, CS1 through CS3, passage through gate while sweep is maintained, loss of sweep on R/A when door is opened and loss of sweep for crash button operated.

    5.5.1   Use Panelview to select Peer25 R/A.

    5.5.2   At CS1 at downstream end of cave, turn #4 key.
Sweep lamp does not light _____

    5.5.3   Use Panelview to select Peer25 C/A.

    5.5.4   At CS1 at downstream end of cave, turn #4 key.
Sweep lamp flashes momentarily to indicate correct sweep sequence_____

    5.5.5   At CS2 near VTGE1 gate, turn #4 key.
Sweep lamp flashes momentarily to indicate correct sweep sequence_____

    5.5.7   At CS3 just inside VPGE1 gate, turn #4 key.
Sweep lamp lights and stays on to indicate completion of sweep_____

    5.5.8   Observe that Panelview 1400 indicates that the VT area is swept_____

    5.5.9   Exit area with S/R and observe sweep lamp remains on _____

    5.5.10   Reenter area with S/R and observe sweep lamp remains on _____

    5.5.11   Exit area without S/R and observe loss of sweep _____

    5.5.12   Repeat steps 5.5.4 through 5.5.7 except skip one station. AREA SWEPT lamp will not light and Panelview will indicate SWEEP NO GOOD.
Panelview and lamps at gate do not light _____

    5.5.13   Go back to the skipped station and turn #4 key.
Sweep lamp does not light _____

    5.5.14   Reestablish sweep and place area on R/A and open gate.
Sweep is lost when VPGE1 gate is opened on R/A _____

    5.5.15   Resweep area on C/A and operate crash button; observe loss of sweep_____

5.6 Restore area to original configuration.

    5.6.1   Notify MCR OC that the system test is complete.

    5.6.2   Remove posted notices in MCR and at VPGE1.

      5.6.3   Remove LOTO of critical devices for this area.

   5.7   The certification of the system is completed when the Safety System Group Leader and the RSC Chair approve the completed checkout sheets.

6.   <u>Documentation</u>

   6.1   Completed V Primary Access Security Gate Subsystem Check (this procedure)

7.   <u>References</u>

   None

8.   <u>Attachments</u>

   None